

10/695,248

NAROP0335US

Amendments to Claims

Please amend the claims as in the following listing:

1. (Canceled)

2. (Currently Amended) A cleaning additive for cleaning furnace walls and inductor loops by fluxing and fluidizing build-up in molten iron. The additive of claim 1, wherein the additive comprising: includes:

8 to 28.7% calcium carbonate;

0 to 18.5% magnesium carbonate;

3.6 to 18.0% alumina;

1.4 to 7.1% silica; and

19.4 to 46.4% sodium oxide, as soda ash;

wherein the additive is substantially fluorspar free; and

such that in use the additive removes and coalesces emulsified slag particles, and softens build-up on furnace sidewalls and inductor throats, without attack on furnace refractory, as occurs with fluorspar fluxing additives.

3. (Currently Amended) The furnace cleaning additive of claim 2, ~~4~~, wherein the additive includes:

12 to 16% calcium carbonate;

11.5 to 15% magnesium carbonate;

8 to 14% alumina;

4.5 to 6.5% silica; and

26.1 to 31.9% sodium oxide, as soda ash.

10/695,248

NAROP0335US

4. (Currently Amended) The cleaning additive of claim 6, ~~4~~, further comprising a release agent that includes polyglycol.

5. (Canceled)

6. (Currently Amended) The cleaning additive of claim 2, ~~4~~, wherein the additive is an agglomeration.

7. (Currently Amended) The cleaning additive of claim 2, ~~4~~, wherein the additive is a powder.

8. (Canceled)

9. (Currently Amended) A method of treating in molten iron in a furnace or treatment vessel, the method comprising: ~~The method of claim 7, wherein the adding includes adding a flux composition that includes:~~

adding a cleaning additive to the iron;

wherein the cleaning additive includes:

8 to 28.7% calcium carbonate;

0 to 18.5% magnesium carbonate;

3.6 to 18.0% alumina;

1.4 to 7.1% silica; and

19.4 to 46.4% sodium oxide, as soda ash;

wherein the cleaning additive is substantially fluorspar free; and

wherein the adding of the cleaning additive includes removing and coalescing emulsified slag particles, and softening build-up on refractory of the furnace or treatment vessel.

10/695,248

NAROP0335US

10. (Currently Amended) The method of claim 9, ~~7~~, wherein the cleaning additive consists essentially of: adding includes adding a flux composition that includes:

- 12 to 16% calcium carbonate;
- 11.5 to 15% magnesium carbonate;
- 8 to 14% alumina;
- 4.5 to 6.5% silica; and
- 26.1 to 31.9% sodium oxide, as soda ash.

11. (Currently Amended) The method of claim 9, ~~7~~, wherein the adding includes adding the cleaning additive flux composition as an agglomeration.

12. (Currently Amended) The method of claim 9, ~~7~~, wherein the adding includes adding the cleaning additive flux composition as a powder.

13. (Currently Amended) The method of claim 9, ~~7~~, wherein the adding includes ~~included~~ adding a bag containing the powder.

14. (Currently Amended) The method of claim 9, ~~7~~, wherein the molten iron metal is in the a furnace; and wherein the adding includes putting the flux composition into the furnace.

15. (Currently Amended) The method of claim 14, ~~43~~, wherein the furnace is an electric coreless induction furnace.

16. (Currently Amended) The method of claim 14, ~~43~~, wherein the furnace is a vertical channel furnace that employs an inductor loop.

10/695,248

NAROP0335US

17. (Currently Amended) The method of claim 14, ~~43~~, wherein the furnace is a pressure pour furnace that employs an inductor loop.

18. (Currently Amended) The method of claim 9, ~~7~~,
wherein the molten metal is in a ladle; and
wherein the adding includes putting the cleaning additive flux composition into
molten iron in a the ladle; and
further comprising pouring the molten iron and the cleaning additive into the
furnace.

19. (Currently Amended) The method of claim 9, ~~7~~, wherein the adding includes adding an amount of the cleaning additive flux composition from 0.01 to 0.75% of the weight of the molten metal.

20. (Currently Amended) The method of claim 9, ~~7~~, wherein the adding includes adding an amount of the cleaning additive flux composition from 0.01 to 0.10% of the weight of the molten metal.

21. (Currently Amended) The method of claim 9, ~~7~~, wherein the adding includes adding an amount of the cleaning additive flux composition from 0.025 to 0.075% of the weight of the molten metal.

22. (Currently Amended) The method of claim 9, ~~7~~, wherein the adding includes adding an amount of the cleaning additive flux composition from 0.035 to 0.075% of the weight of the molten metal.

10/695,248

NAROP0335US

23. (New) The additive of claim 2, wherein the alumina and the silica are in the form of a complex aluminosilicate.

24. (New) A cleaning additive for cleaning furnace walls and inductor loops by fluxing and fluidizing slags in molten metal, the additive consisting essentially of:

8 to 28.7% calcium carbonate;

0 to 18.5% magnesium carbonate;

3.6 to 18.0% alumina;

1.4 to 7.1% silica; and

19.4 to 46.4% sodium oxide, as soda ash;

wherein the additive is substantially fluorspar free; and

such that in use the additive removes and coalesces emulsified slag particles, and softens build-up on furnace sidewalls and inductor throats, without attack on furnace refractory, as occurs with fluorspar fluxing additives.